



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/003,703	10/23/2001	Minghua Chen	TRANDIM.006A	2516
20995	7590	05/02/2006	EXAMINER	
KNOBBE MARTENS OLSON & BEAR LLP			FERRIS, DERRICK W	
2040 MAIN STREET			ART UNIT	
FOURTEENTH FLOOR			PAPER NUMBER	
IRVINE, CA 92614			2616	

DATE MAILED: 05/02/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/003,703

Applicant(s)

CHEN ET AL

Examiner

Derrick W. Ferris

Art Unit

2616

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 March 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-44 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-44 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Response to Arguments

1. This Office action is in response to applicant's paper filed 3/30/2006. **Claims 1-44** as amended are still in consideration for this application.
2. Examiner does **not withdraw** the anticipated rejection to *Sugar*. The following comments fully address applicant's arguments with respect to the rejection. Applicant's arguments filed 3/30/2006 have been fully considered but they are not persuasive. In particular, although the examiner thanks applicant for further clarifying the recited claimed subject matter, the examiner believes that the amended subject matter is further taught by the reference. Specifically, at issue is the further limitation of prioritizing transmission of the first and second transmissions so as to maintain each of the first and second transmissions within their respective desired service levels, wherein the prioritizing is based at least partly on priorities *and* the current quality of service associated with the first and second transmission. As such, *Sugar* teaches guaranteeing QoS for both Bluetooth and 802.11 data, see e.g., paragraph 0084 on page 7. Thus *Sugar* teaches maintaining the current QoS associated with a first and second transmission with respect to priority thus further teaching the above limitation at issue.

In addition, in the interest of further expediting prosecution, the examiner has also provided a new rejection based on the claims as necessitated by amendment. Please see new rejection below.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

Art Unit: 2616

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. **Claims 1-29 and 33-44** are rejected under 35 U.S.C. 102(e) as being anticipated by U.S.

Patent Application 2002/0061031 A1 to *Sugar et al.* (“*Sugar*”).

As to **claim 1**, *Sugar* teaches applicant’s coordination point 117 as multi-protocol device MPD 12. As such, the MPD 12 acquires transmission characteristics for the transmission of a first protocol and the transmission of a second wireless protocol with respect to Additional Collision Avoidance Techniques starting e.g., at page 5. In particular, the MPD 12 monitors WLAN traffic metrics (i.e., transmission characteristics) used to arbitrate WLAN access between different protocols, see e.g., paragraphs 0062 and 0064. Specifically, in order for arbitration to take place, the MPD must be aware of the two or more protocols that the MPD will arbitrate. Thus, with respect to analyzing the transmissions characteristics for the transmission of the first protocol and the transmission of the second protocol and moderating the transmission characteristics to determine an imminent collision between the transmission of the first protocol and the transmission of the second protocol, the MPD monitors and then arbitrates the protocols based on the received traffic metrics. In particular, the above is done in order to provide similar configurations of the CSMA parameters (for each protocol) such as packet duration, guard time, and back-off time *Sugar* further teaches guaranteeing QoS for both Bluetooth and 802.11 data using priority, see e.g., paragraph 0084 on page 7.

As to **claim 2**, with respect to ordering of packets see monitoring the BER with respect to acknowledgements where acknowledgments determining the ordering of packets, see e.g., paragraph 0059. In addition, since timing information is obtained, the packets are also ordered, see e.g., paragraph 0063 on page 5.

As to **claim 3**, the MPD time aligns the protocols, see e.g., paragraph 0063 on page 5 and paragraph 0017 on page 10 with respect to timing.

As to **claim 4**, since frequency hopping is a consideration with interference, the MPD tracks the frequency that the packet is being transmitted, received on, see e.g., figures 17a and 17b, paragraph 0099 on page 9 and paragraph 0117 on page 10.

As to **claim 5**, the MPD monitors the channels where the channel is used to send the data, see e.g., paragraph 0044 on page 3.

As to **claims 6-7**, with respect to FHSS see e.g., paragraph 0042 on page 3 and paragraph 0066 on page 6 where Bluetooth uses FHSS.

As to **claims 8-9**, with respect to DSSS see e.g., paragraph 0042 on page 3 and paragraph 0066 on page 6 where 802.11 uses DSSS.

As to **claim 10**, with respect to overlapping see e.g., paragraph 0049 on page 4.

As to **claims 11-12**, with respect to fixed frequency and alternating frequencies, see e.g., paragraph 0066 on page 6 where Bluetooth uses alternating-frequencies and 802.11 uses fixed frequencies.

As to **claims 13-14**, with respect to quality of services, see e.g., paragraphs 0054 on page 4, and paragraph 0089 on page 7.

As to **claims 15-16**, with respect to an acceptable range, see e.g., monitoring error rates where the service level is reflected by the error rate at e.g., paragraph 0059 on page 5. Examples include but are not limited to e.g., paragraphs 0084 on page 7, paragraph 0094 on page 8, and paragraph 0105 on page 9.

As to **claim 17**, see similar rejection to claim 1.

As to **claim 18**, see similar rejection to claim 2.

As to **claim 19**, see similar rejection to claim 3.

As to **claim 20**, see similar rejection to claim 4.

As to **claim 21**, see similar rejection to claim 5.

As to **claim 22**, see similar rejection to claim 6.

As to **claim 23**, see similar rejection to claim 8.

As to **claim 24**, see similar rejection to claim 10.

As to **claim 25**, see similar rejection to claim 11.

As to **claim 26**, see similar rejection to claim 13.

As to **claim 27**, with respect to voice and data, see e.g., paragraph 0054 on page 4.

As to **claim 28-29**, see similar rejection to claim 13.

As to **claim 33**, *Sugar* teaches applicant's coordination point 117 as multi-protocol device MPD 12. As such, the MPD 12 identifies the transmission statistics during exchange of information between the plurality of data transfer nodes by monitoring certain metrics, see e.g., paragraph 0062 and 0064 on page 5. With respect to subsequently accessing the transmission statistics to determine if an acceptable quality of service is maintained, the MPD 12 applies the collision avoidance techniques if the MPD

Art Unit: 2616

12 determines that there is a “likelihood” of interference, see e.g., paragraph 0062 on page 5. In addition, see e.g., paragraphs 0084 on page 7, paragraph 0094 on page 8, and paragraph 0105 on page 9 with respect to identifying and assessing transmission statistics. Finally, with respect to a synchronization module which moderates information exchange in at least one of the frequency-overlapping protocols to maintain quality of service, see e.g., paragraph 0064 on page 5 with respect to maintaining similar configurations and paragraph 0117 on page 10 with respect to timing for disparate networks.

As to **claim 34**, see similar rejection to combined claims 16 and 27.

As to **claims 35-36**, see similar rejection to claim 16.

As to **claim 37**, see similar rejection to claim 1.

As to **claim 38**, see similar rejection to claim 27.

As to **claim 39**, see similar rejection to claim 27.

As to **claim 40**, see similar rejection to claim 6.

As to **claim 41**, see similar rejection to claim 7.

As to **claim 42**, see similar rejection to claim 8.

As to **claim 43**, see similar rejection to claim 9.

As to **claim 44**, see similar rejection to combined claims 11 and 12.

5. **Claims 1, 3-17, 19-30, 33-44** are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent Application 2005/0078616 A1 to *Nevo et al.* (“*Nevo*”).

As to **claim 1**, see e.g., figure 1 with respect to a first protocol A and a second protocol B. The control managers 106a and 106b further acquire transmission

characteristics with respect to the first and second wireless protocol. The control managers further analyze the transmission characteristics to determine an imminent collision between the first and second protocols, see e.g., paragraphs 0053 and 0054 on page 5. Finally, *Nevo* further teaches first and second priority and maintaining quality of service with respect to prioritizing transmission of the first and second transmissions so as to maintain each of the first and second transmissions within their respective desired service levels, wherein the prioritizing is based at least partly on priorities and the current quality of service associated with the first and second transmission at e.g., paragraphs 0065-0067 on page 6.

As to **claim 3**, see e.g., paragraph 0051 on page 5 with respect to timing sharing.

As to **claims 4-5**, see e.g., paragraph 0047 on page 4 with respect to using a frequency or channel.

As to **claims 6-7**, see e.g., paragraph 0047 on page 4 with respect to using Bluetooth which uses FHSS.

As to **claims 8-9** see e.g., paragraph 0047 on page 4 with respect to using 802.11 which uses DSSS. See also paragraph 004 on page 1 and claim 3.

As to **claim 10**, see e.g., paragraphs 0052 and paragraph 0057 on page 5 where the wireless device 100 coordinates operation by adjusting timing.

As to **claims 11-12**, Bluetooth is alternating frequency and 802.11 is fixed, see e.g., paragraph 0047 on page 4.

As to **claim 13**, see e.g., paragraph 0065 with respect to QoS.

As to **claims 14-16**, see e.g., paragraphs 0067 and –68 on page 6 with respect to comparing priorities to thresholds.

As to **claim 17**, see similar rejection to claim 1.

As to **claim 19**, see similar rejection to claim 3.

As to **claim 20**, see similar rejection to claim 4.

As to **claim 21**, see similar rejection to claim 5.

As to **claim 22**, see similar rejection to claim 6.

As to **claim 23**, see similar rejection to claim 8.

As to **claim 24**, see similar rejection to claim 10.

As to **claim 25**, see similar rejection to claim 11.

As to **claim 26**, see similar rejection to claim 13.

As to **claim 27**, with respect to types of traffic, see e.g., paragraph 0066 on page 6.

As to **claim 28-29**, see similar rejection to claim 13.

As to **claim 30**, with respect to packet loss rates, see e.g., paragraph 0068 on page 6.

As to **claim 33**, see similar rejection to claim 1. In addition, with respect to synchronization, *Nevo* further teaches time sharing, see e.g., paragraph 0051 on page 5.

As to **claim 34**, see similar rejection to combined claims 16 and 27.

As to **claims 35-36**, see similar rejection to claim 16.

As to **claim 37**, see similar rejection to claim 1.

As to **claim 38**, see similar rejection to claim 27.

Art Unit: 2616

As to **claim 39**, see similar rejection to claim 27.

As to **claim 40**, see similar rejection to claim 6.

As to **claim 41**, see similar rejection to claim 7.

As to **claim 42**, see similar rejection to claim 8.

As to **claim 43**, see similar rejection to claim 9.

As to **claim 44**, see similar rejection to combined claims 11 and 12.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. **Claims 30-32** are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent Application 2002/0061031 A1 to *Sugar et al.* ("*Sugar*") in view of U.S. Patent No. 6,405,257 B1 to *Gersht et al.* ("*Gersht*").

As such to **claims 30-32**, *Sugar* discloses supporting QoS, see e.g., paragraph 0054 on page 4 and paragraph 0089 on page 7.

Sugar is silent or deficient to the further limitation of maintaining specific quality statistics which includes packet loss rate, packet delays and throughput as further recited in the claims.

Gersht teaches the further recited limitation above at e.g., column 5, lines 5-20.

The proposed modification of the above-applied reference(s) necessary to arrive at the claimed subject matter would be to modify *Sugar* by clarifying that quality service

Art Unit: 2616

parameters are well known in the art and such parameters include packet loss rate, packet delays and throughput as is further known in the art.

As such, examiner notes that it would have been obvious to one skilled in the art prior to applicant's invention to include the above limitation. In particular, the motivation for modifying the reference or to combine the reference teachings would be to control congestion. In particular, *Gersht* cures the above-cited deficiency by providing a motivation found at e.g., column 5, line 5-20.

Conclusion

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Derrick W. Ferris whose telephone number is (571) 272-3123. The examiner can normally be reached on M-F 9 A.M. - 4:30 P.M. E.S.T.

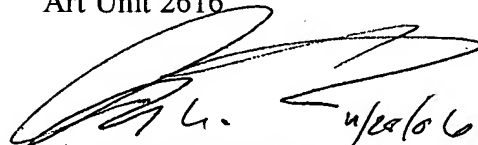
Art Unit: 2616

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wellington Chin can be reached on (571)272-3134. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


DWF

Derrick W. Ferris
Examiner
Art Unit 2616



**DERRICK FERRIS
PATENT EXAMINER**